Math 132 - Quiz 10

Name _____

November 9, 2022

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due November 14.

1. (7.5 points) Determine whether the series converges or diverges. Show all work to justify your conclusion.

   (a) $\displaystyle\sum_{n=1}^{\infty} \ln\left(\frac{n}{n+1}\right)$

   (b) $\displaystyle\sum_{n=1}^{\infty} \frac{n^2}{n^2+16}$

   (c) $\displaystyle\sum_{n=1}^{\infty} \frac{3^n + 4^n}{7^n}$

Turn over.

(d) $\displaystyle\sum_{n=2}^{\infty} \frac{1}{n\sqrt{\ln n}}$

(e) $\displaystyle\sum_{n=1}^{\infty} \frac{1}{n^3+1}$

2. (2.5 points) Show that the series converges and find its sum.

$$\sum_{n=2}^{\infty} \frac{4}{3^{n+1}}$$